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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,093	02/20/2004	Wounjhang Park	226251	6898
23460 7590 12/22/2006 LEYDIG VOIT & MAYER, LTD TWO PRUDENTIAL PLAZA, SUITE 4900 180 NORTH STETSON AVENUE CHICAGO, IL 60601-6731			EXAMINER LE, HOA T	
			ART UNIT 1773	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/22/2006	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/784,093	PARK ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	H. T. Le	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 37-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 37-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>April 2006</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### *Claim Rejections - 35 USC § 102*

2. Claims 1, 7, and 37-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Ronda et al (US 6,150,757).

Ronda teaches a luminescent material (i.e. phosphor) coated with a crystalline layer of metal oxide wherein the metal is chosen from yttrium alone or yttrium and rare earth metals (col. 1, lines 50-54 and col. 2, lines 5-14). The coating thickness is within the range of 25 nm to 100 nm (see claim 6). The coating is formed by heating in air and in a reducing atmosphere (col. 2, lines 37-42). Thus the resulting coating is necessarily continuous and uniform (a factual phenomenon that is also attested to in the instant specification at page 9, lines 15-23).

#### *Claim Rejections - 35 USC § 103*

3. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ronda et al (US 6,150,757) as applied to claims 1-7 and 37-39 above, and further in view of the discussion below.

Ronda teaches coated phosphors identical to the claimed coated phosphor as discussed above. Instead of the standard sulfide phosphor particularly ZnS:Cu phosphor, Ronda emphasizes trivalent-europium activated yttrium oxide (YVO<sub>4</sub>:Eu) or bivalent europium activated barium-magnesium aluminate phosphor (BAM or BaMgAl<sub>10</sub>O<sub>17</sub>:Eu) for

low-pressure mercury discharge lamp. See Ronda, col. 4, lines 1-3. It is well-established in the art of mercury discharge lamp that sulfide phosphor and the phosphors exemplified in the Ronda patent are known as UV-A phosphors and equally provide satisfactory reflectance. The advantage with ZnS:Cu phosphor is that it additionally provides a decorative uniqueness to the lamp. See for example, US 6,888,302 to Juestel et al, col. 2, lines 16-26, where all customary UV-A phosphors for low-pressure mercury discharge lamp are discussed. Therefore, one having ordinary skill in the art would have found it obvious to use either the phosphors exemplified in the Ronda patent or be motivated to use ZnS:Cu phosphor if a decorative edge is desired.

4. US patent 5,686,022 to Murayama is cited as art of interest. Murayama states that ZnS:Cu is the “most extensively used phosphorescent phosphor” as compared to europium-activated alkaline-earth-metal aluminate phosphor which was considered novel in 1997 (col. 1, lines 30-35 and 47-55).

#### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-7 and 37-39 have been considered and found persuasive but are moot in view of the new ground(s) of rejection.

6. Applicant's arguments with respect to the double patenting rejection are found persuasive. The double patenting rejection has been withdrawn.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. T. Le whose telephone number is 571-272-1511. The examiner can normally be reached on 10:00 a.m. to 6:30 p.m., Mondays to Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



H. T. Le  
Primary Examiner  
Art Unit 1773

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